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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,290	04/05/2001	Daniel C. Berg	RSW920000173US1	5722

7590 12/22/2004

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EXAMINER

PHAM, CHRYSTINE

ART UNIT PAPER NUMBER

2122

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/827,290	BERG ET AL.	
	Examiner	Art Unit	
	Chrystine Pham	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11,13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the amendment filed on October 6th 2004.
2. The cancellation of claims 2, 4, 8, and 12, is hereby, acknowledged.
3. Claims 1, 3-7, 9-11, and 13-14, are presented for examination.

Response to Amendments

4. In view of Applicants' amendments to the specification in response to the objection of the specification containing embedded hyperlinks, the objection to the specification is hereby withdrawn.
5. In view of Applicants' amendments to claims in response to the objection to the misnumbering of claims, the objection to claims is hereby withdrawn.
6. In view of Applicants' amendments to claim 14 to overcome claim rejection under 35 U.S.C § 112, 2nd paragraph for the identified limitation(s) lacking antecedent basis, claim rejection under 35 U.S.C § 112, 2nd paragraph is hereby withdrawn.

Response to Arguments

7. Applicants' arguments filed on October 6th 2004 in regards to claim rejections have been fully considered but they are not persuasive. The Applicants essentially contend that no teaching in Rubin discloses **the ordering of setting an association end and automatically programmatically modifying its inverse association end depends on whether the association end has a single or many-multiplicity**, as now amended in the claims. The examiner respectfully disagrees, although Rubin does not expressly stress the different orderings the setting and modifying steps for different types of association end (i.e., single or many multiplicity), this feature, is nonetheless, deemed inherent in the teaching of Rubin, which is directed to implementing one-to-many (i.e., single-multiplicity to many-multiplicity)

binary bidirectional relations (e.g., see Abstract; see *one-to-many binary bidirectional relations* col.3:40-50) and enforcing referential integrity thereof (e.g., see *referential integrity* col.6:35-37). Following are claim rejections, which will further explain the inherency of the above limitation in the teaching of Rubin.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 4, 6, 7, 9, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin of record, hereinafter, *Rubin*.

Claim 1

Rubin teaches a system (e.g., see fig.1 & associated text) and method for programmatically enforcing referential integrity constraints (e.g., col.5:30-47; see *referential integrity* col.6:35-37) among associations (e.g., see *presents 20* fig.2 & associated text) between class instances, comprising the steps of:

- o determining when evaluating (e.g., col.11:59-64) a request to set an association end to reflect an association (e.g., see *presents 20* fig.2 & associated text; see *presents* fig.3 & associated text) from an instance of a first class (e.g., see *SOURCE INSTANCE 26* fig.3 & associated text; see *SOURCE 22* fig.2 & associated text) to an instance of a second class (e.g., see *SINK INSTANCE 28* fig.3 & associated text; see *SINK 24* fig.2 & associated text) whether the association end has a single multiplicity (e.g., see *presents* fig.3 & associated text; see *FANPRESENTS 31*, *FAN 30*, *SOURCE 22* fig.4 & associated text) or a many multiplicity (e.g., see *ISPRESENTEDBY 40*, *TOONE 41*, *SINK 24* fig.4 & associated text);

- setting the requested association end (e.g., col.2:40-43 & col.2:52-56); and
- programmatically modifying an inverse association end of the association to reflect an inverse association (e.g., see *ISPRESNTEDBY* 40 fig.4 & associated text; see *source pointer* col.2:52-56) from the instance of the second class to the instance of the first class after disconnecting the
- inverse association end from an existing instance, if any (e.g., see *relationships*, *source pointer* col.3:4-9);

Rubin does not explicitly state wherein an ordering of the setting step and the programmatically modifying step depends on an outcome of the determining step. However, this feature is deemed inherent in the teaching of *Rubin*, which is directed to implementing one-to-many (i.e., single-multiplicity to many-multiplicity) binary bidirectional relations (e.g., see Abstract; see *one-to-many binary bidirectional relations* col.3:40-50) and enforcing referential integrity thereof (e.g., see *referential integrity* col.6:35-37).

Consider, arguendo, that setting a single-multiplicity association end has been requested to reflect an association (i.e., *presents*) between an instance (e.g., *sourceA*) of a first class *source* and an instance (e.g., *sink1*) of a second class *sink*. It is apparent in this example that the *presents* association is one-to-many or single-to-many relation in which the single-multiplicity association end (i.e., *sourceA*) can be associated to, or rather *presents*, more than one *sink* instance *sink1* (e.g., col.6:24-31). Equivalently, *sink1* can only be associated with, or rather *ispresentedby*, at most ONE *source* instance. Thus, the ordering of the **setting** [the requested association to reflect an association from an the instance of a first class to the and the instance of the second class] step (i.e., *sourceA presents sink1*) and **programmatically modifying** [an inverse association end of the association to reflect an inverse association from the instance of the second class to the instance of the first class after disconnecting the inverse association end from an existing instance, if any] step (i.e., *sink1 ispresentedby sourceA*) for the many-multiplicity association end HAS TO BE performing the **setting step** AFTER performing the programmatically **modifying step**, since doing otherwise, that is to say, performing the setting step (i.e., setting the sink pointer of the *sourceA* to point to the *sink1*) BEFORE performing the modifying step (i.e., setting the source pointer of the *sink1* to point to the *sourceA* after disconnecting the source pointer of the *sink1* from an existing *source* instance *sourceB*, if any) would violate the referential integrity constraints of the bidirectional one-to-many relation

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implementation described by *Rubin* because the setting step would cause *sink1* to have more than one *source* instance pointing at it (i.e., *sourceB* and *sourceA*).

Claim 3

The rejection of base claim 1 is incorporated. *Rubin* further teaches wherein the ordering of the setting and the programmatically modifying steps for a particular association end where the outcome is single multiplicity further comprises performing the setting step (e.g., see *inserting sink instance into a doubly-linked ring of sink instances* col.2:52-56) after performing the programmatically modifying step (e.g., see *setting the source pointer to the address of the source instance* col.2:52-56).

Claim 4

The rejection of base claim 1 is incorporated. *Rubin* further teaches wherein the ordering of the setting and the programmatically modifying steps for a particular association end where the outcome is the many multiplicity (i.e., *sink*) (see claim 1) further comprises Performing the setting [the requested association end to reflect an association from an instance of a first class to an instance of a second class] step (i.e., *sink is presented by source*) (e.g., see *setting the source pointer to the address of the source instance* col.2:52-56) BEFORE performing the programmatically modifying [an inverse association end of the association to reflect an inverse association from the instance of the second class to the instance of the first class] step (i.e., *source presents sink*) (e.g., see *inserting sink instance into a doubly-linked ring of sink instances* col.2:52-56).

Claims 6-7

In view of the foregoing discussion of inherency, the examiner considers the rejection of claims 6-7 under 35 U.S.C § 102 is proper and maintained. See previous Office Action.

Claims 9

The rejection of base claim 7 is incorporated. Claim recites limitations, which have been addressed in claims 3-4, therefore, is rejected for the same reasons as cited in claims 3-4.

Claim 11

Claim recites a system for performing the method as addressed in claim 1, therefore, is rejected for the same reasons as cited in claim 1.

Claim 13

The rejection of base claim 11 is incorporated. Claim recites limitations, which have been addressed in claims 3-4, therefore, is rejected for the same reasons as cited in claims 3-4.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rubin* in view of Johnson of record, hereinafter, *Johnson*.

Claim 5

The rejection of base claim 1 is incorporated. In view of the foregoing discussion of inherency, the examiner considers the rejection of claim 5 under 35 U.S.C § 103 is proper and maintained. See previous Office Action.

Claims 10, 14

Claims recite limitations, which have been addressed in claim 5, therefore, are rejected for the same reasons as cited in claim 5.

Conclusion

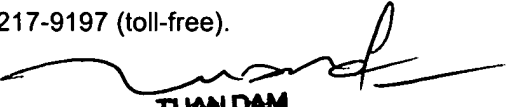
12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chrystine Pham whose telephone number is 571-212-3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TUAN DAM
SUPERVISORY PATENT EXAMINER

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Chrystine Pham
Examiner
GAU 2122
November 30, 2004